

Section 6-3: Tests for Parallelograms

By the end of this lesson, you should be able to answer:

- How do you recognize the conditions that ensure a quadrilateral is a parallelogram?
- How do you prove that a set of points forms a parallelogram in the coordinate plane?

Theorems:

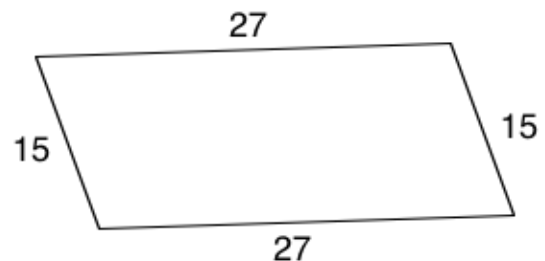
6.9 - Opposite Sides:

6.10 - Opposite Angles:

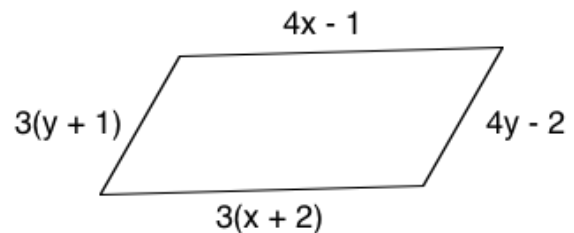
6.11 - Diagonals:

6.12 - Parallel Congruent Set of Sides:

Example 1: Determine whether the quadrilateral is a parallelogram. Justify your answer.

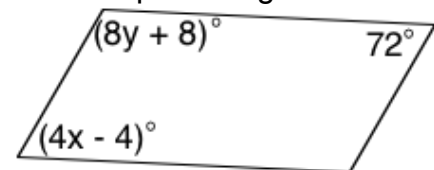


Example 2: Find x and y so that the quadrilateral is a parallelogram.



Example 3: Quadrilateral $TACO$ has vertices $T(-1, 3)$, $A(3, 1)$, $C(2, -3)$, and $O(-2, -1)$. Use the slope formula to determine whether $TACO$ is a parallelogram.

Example 4: Find the value of x and y so that the quadrilateral is a parallelogram.



Problem Set:

"I am always doing that which I can not do, in order that I may learn how to do it." - Pablo Picasso